**Program: ARISE Logic Model (revised December 2016)**

| Inputs | Outputs | | Outcomes -- Impact | | |
|---|---|---|---|---|---|
| | *Activities* | *Products* | *Short-Term* | *Medium-Term* | *Long-Term* |
| **NSF**<br>- Funding<br>- Noyce Program Officers<br>**AAAS**<br>- Project staff<br>- Event space<br>- Technology infrastructure for resources<br>**NSF and Department of Education-Funded Projects Focusing on STEM Teacher Preparation**<br>- PIs<br>- Researchers/ evaluators<br>**STEM Teacher Education Programs**<br>- Models<br>- Practices<br>- Curricula<br>- Research<br>**Professional Orgs.**<br>- Standards for K–12 STEM education<br>- Standards for STEM teacher education<br>**SEAs and LEAs**<br>- Need for qualified STEM teachers<br>- Policies<br>- Teacher evaluation systems<br>- Teacher licensing and graduation requirements<br>**Institutes of Higher Education**<br>- Community Colleges<br>- 4-Year Colleges/<br>- Universities | Steering Committee Meetings<br><br>Working Group Meetings<br><br>Stakeholder meetings<br>- Professional Societies<br>- LEAs<br>- Community Colleges<br><br>Regional Focus Groups<br><br>Noyce Summit<br><br>Survey of Noyce grantees, researchers, and STEM preservice teacher education and leadership development programs<br><br>Literature Review<br><br>Proposal preparation and community webinars for current and future Noyce Grantees | Commissioned Papers<br><br>Research Agenda (i.e., a framework for conducting research, including what is known, what the field wants to know, types of research designs, ways to improve methodology, what evidence to collect, ways to improve research linkages)<br><br>Blueprint for Innovation<br><br>Searchable Online Annotated Bibliography<br><br>Noyce Program Website (including examples of funded research designs; online, searchable standards tool with information about core concepts and competencies for STEM teachers and leaders; discussion of benchmarks; examples of innovation in STEM teacher and leadership programs) | Stakeholders (STEM teacher education programs, professional organizations, SEAs and LEAs) make use of the products developed by the project<br><br>Project participants (e.g., working group members) become more aware of standards-based and evidence-based practices for attracting, preparing, supporting, and retaining STEM teachers and leaders in high-needs schools<br><br>Project participants (e.g., working group members) become more aware of topics and strategies for future data use and research about attracting, preparing, supporting, and retaining STEM teachers and leaders in high-needs schools | Future Noyce projects and others incorporate data use and research to address questions outlined in the research agenda<br><br>Increase in quantity and quality of research on pre-service STEM teacher education<br><br>Future Noyce projects and others incorporate recommendations from the Blueprint for Innovation in the design of their programs (e.g., changes in curriculum, courses, student assessment, teaching approaches, teacher field experiences, teacher support and mentoring, teacher induction, teacher leadership development, degree requirements, faculty development, licensure requirements, collaborations with local education agencies and two-year colleges)<br><br>Stakeholders adopt evidence-based practices for attracting, preparing, supporting, and retaining STEM teachers and leaders in high-needs schools<br><br>New collaborations (across departments, disciplines, institutions [e.g., LEAs and Community Colleges]) to advance the research agenda and innovation in STEM teacher and leader preparation | Enhanced STEM teacher and leader quality<br><br>Improved recruitment and retention of STEM teacher and leader candidates<br><br>Improved STEM teacher and leader preparation to work in high-needs schools<br><br>Improved K–12 STEM instruction in high-needs schools<br><br>Improved K–12 STEM student achievement in high-needs schools |